

Early NDW Operational Phase FAQs

April 8, 2007

1. Was the NDW tested to make sure it functioned properly and maintained the integrity of our data before you began using it for IHS' Official Annual Workload and User Pop Reports?

Yes, we extensively tested during all three NDW Project phases (design, build, and the implementation) and are now and will continue to perform testing during the operational or production phase. We are not aware of any national database within IHS that has ever undergone this level of verification. In addition to all of the usual testing that is always part of designing and building any new system, our testing included:

- Formal alpha and beta testing of the NDW software;
- The QURE process. Separate audit files were created at each RPMS site and then compared with the actual export file just before NDW load. Every instance was researched and any problem found corrected so that our ongoing monitoring of data integrity now shows essentially a zero error rate. A separate audit file was created for every export file prior to NDW load and then compared with the data after its load into the NDW. Again, every instance was researched and any problem found corrected so that our ongoing monitoring of data integrity now shows essentially a zero error rate (see <http://www.ndw.ihs.gov/how-do-we-know-you-got-all-our-data-right.asp>);
- Intensive, facility by facility comparisons of Workload and User Pop reports produced by the legacy and the new NDW systems running in parallel; and
- A complete re-export of an Area's entire fiscal year of encounter data allowed us to compare data from that special re-export with the data that was already loaded into the NDW. This analysis of almost 5 million records revealed only 18 encounter records that we unexpectedly did not have (we knew that an incremental file from one site had not reached us and had already notified the Area to resend it). Of these 18, only 6 records were new encounter records. The other 12 were just modifications of records that we already had. This is truly remarkable accuracy!

2. You say that the NDW RPMS export software underwent both 'alpha' and 'beta' testing. But others have told me that it did not have any formal testing...

They are mistaken. The NDW RPMS export software underwent two full cycles of 'alpha' and 'beta' testing at live sites in the field. To be specific:

We performed extended formal alpha testing of the initial load software in Tucson Area between September 2003 and April 2004. We performed extended formal beta testing at multiple sites in other Areas between May 2004 and April 2005. The software successfully completed both those tests.

Later, we also submitted the revised incremental version of the NDW RPMS export software (this is the final version of the export software that you are now using) to formal 'alpha' testing in Tucson Area. We did this testing between May 2005 and August 2005. We performed formal beta testing between September 2005 and January 2006. We conducted beta testing at one site in each of the other 11 Areas. The software successfully completed both tests and was fully certified January 26, 2006.

3. Was any of this testing "live testing," i.e., did it involve production systems in the field?

Yes, all of the testing examples I specifically mentioned above involved testing at 'live production sites.'

4. Wasn't the period during which the RPMS incremental exports were used and tested fairly brief? I am worried that we used the NDW as our source for official reports too soon, before it was fully verified.

No, the incremental exports were tested and used for an extended period before the NDW was used for its first Official Annual Workload and User Pop Reports and announced as NPIRS' production system.

We submitted the RPMS NDW incremental export to formal alpha and beta testing and it successfully passed that testing during 2005, as previously described. We continued to use the legacy system rather than the NDW system to produce the Official FY 2005 Workload and User Pop Reports later that year, in November and December 2005.

We did not use the NDW for the Official FY 2006 Workload and User Pop Reports until a year later, in November and December 2006. We have only begun to use it for the many other official reports this year (2007).

5. But we exported data to both NPIRS' older system, its legacy system, and to this new NDW system, both at the same time, for at least a couple of years. Did you use that opportunity to compare the data and reports in those two systems over similar time periods?

Yes, we loaded and ran both the NPIRS legacy and NDW systems from May 2004 through March 31, 2007. NPIRS' NDW system became fully loaded by November of 2006. November and December we performed extensive testing to compare results from both systems, looking facility by facility for any variances, carefully researching any variances that were above a threshold. NPIRS has on file two thick notebooks summarizing this testing. One of these notebooks reports on the testing we performed to compare Workload Reports; the other compares User Pop Reports. Using that extensive testing, we confirmed only what we already expected. We did not identify any significant problems with the NDW processes. Better yet, we proactively discovered that NPIRS was receiving some improperly coded registration records.

6. I heard about that problem. Honestly, now, isn't that just an example of why the NDW really isn't ready to be used for official reports?

No, we would disagree. Actually, using the NDW, we have identified a problem in local IT systems that needs to be investigated further. We feel this demonstrates our aggressive, proactive, and open approach to identifying problems in either of our systems (at NPIRS or in the local IT systems), anything that might be making our reports less accurate. In this case the problem appears to be in the local system, but next time it could very well be in the NDW. Here are more details.

With our extensive data integrity testing, NPIRS staff noted a problem with certain registration records and their associated encounter records from one Site, in particular, that reflected problems in that Site's database. Specifically, we found that:

- We were not receiving certain new registration records properly identified as new records ("Adds") in a bona fide NDW export;
- However, we later received these records coded as "Changes" or "No Changes," which told our system to look for the original record, match them, and then load. Since the NDW could not find the original record, the system automatically sent those 'change' records to an error table so that we could further investigate and we notified the sending site via a Post Load Report email; and
- We subsequently received encounter records associated with those registration records that would not load because we did not have an associated valid registration record. So the system also automatically sent these encounter records to an error table so that we could further investigate and we notified the local site via a Post Load Report email.

We promptly notified DPS/OPHS of this problem and together notified the Area and affected Site. NPIRS assisted by estimating an appropriate correction to their User Pop count. Other OIT components also assisted them to update some patches on their local RPMS system and then re-export.

We noted that other sites in other Areas we also having more sporadic errors of this type. RPMS Registration experts are working with local sites to try and better understand the reasons for these problems (they appear to be in the local databases or perhaps, in the RPMS Registration Package, or both). In the meantime, NPIRS thoroughly evaluated this issue to see if there was some way we could temporarily correct the problem at our end by loading the improperly coded registration records, anyway. We are now reasonably confident that we can do so and have planned to very carefully and deliberately make some changes in our load processes at our end to temporarily fix this. Scheduling this change has to be carefully juggled with other equally or even more critical updates to NPIRS' NDW environment, but we expect to implement this temporary fix by the end of this fiscal year (FY 2007).

7. I understand that all of the CHS data that local sites or the Area Offices send to NPIRS are first loaded into the older legacy system and from there into the new NDW system. How can that continue to work if, as you say, you are decommissioning the legacy system?

That is a misunderstanding. We load CHS data directly into NPIRS' NDW system, not by first loading it into the older legacy system. Our decommissioning of the legacy system will not affect our ability to load your CHS exports.

8. As near as I can tell, the current NDW Post Load Reports provide a count of rejected records, but no documentation of the reason for rejection. We need to know why the records were rejected if we are to correct and resubmit them. How do we get this information?

After your data is loaded into the NDW, we send you a Post Load E-mail that provides you summary count information. We also provide more detailed Post Load Reports for each Area on the NPIRS web site. Your Area Stat Officer and ISC have access to those reports. They will be able to assist you to review the results for each and every one of your exports, identify the records that were rejected, and tell you the reasons for each of those rejections. If they have any questions about those reports or how to use them, they know to contact NPIRS for further assistance.

9. I have not been receiving these Post Load e-mail reports. Why not? How do I get them?

Contact your Area Stat officer. He/She provides NPIRS and then updates the list that tells us to whom to send confirmatory e-mails for every sending site. We send the e-mails to those specified on that list.

10. If NPIRS has problems loading any of my exports, how and when will I learn about this?

We provide Areas and Sites automatic notification anytime a file reaches us. (Of course, we cannot notify you about files that we did not receive because we don't know about them yet.) Whenever we encounter problems in loading your files, NPIRS staff promptly evaluates the problem, carefully researches what went wrong, and then contacts you to begin to work the problem with you. We will contact you just as soon as we have useful information to try and begin to solve the problem together. Don't worry, if we are flummoxed, we will let you know; but that has not happened yet!

If you have any additional concerns or questions, please do not hesitate to contact us at the NPIRS HelpDesk, npirshd@ihs.gov. Contacting us this way is best to ensure that we receive your question or request and can respond to it promptly.

The NPIRS Team